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**SUGGESTIBILITY IN DELINQUENT  
AND NONDELINQUENT ADULT  
WHITE MALES**

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## SUGGESTIBILITY IN DELINQUENT AND NONDELINQUENT ADULT WHITE MALES<sup>1</sup>

By VICTOR H. VOGEL, *Passed Assistant Surgeon, United States Public Health Service*

Hull (1) states: "The relation of suggestibility to delinquency has long interested sociologists and criminologists. \* \* \* it has been suspected that at least some forms of delinquency might be due to hypersuggestibility."

Apparently the only work that has been done on this subject is that of Landis (2), who tested 112 young female delinquents. His results, shown in figure 1, compared with the response of 64 college students (fig. 2) recorded by Charlotte Life (1), indicate a significant number of negative responses, i. e., a tendency to do the opposite of what is suggested.

Since Miss Life tested only volunteer students and apparently included negative responses in her 0-30 group, her results should not be accepted as reflecting a complete picture of sug-

gestibility in normal subjects. Most psychological traits, of course, tend to show a bellshaped distribution represented by a dot diagram, as shown in figure 3. Aveling and Hargreaves (3) tested a number of individuals and apparently found a U-shaped distribution. This was confirmed in part by Estabrooks (4).

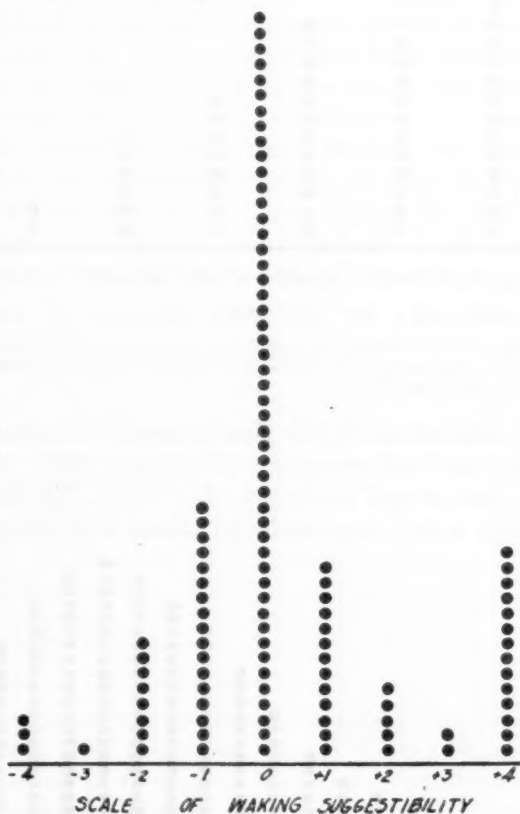


FIGURE 1.—Distribution of suggestibility scores of 112 delinquent girls tested by Landis. Reproduced by permission (1).

<sup>1</sup> From the United States Public Health Service Hospital, Lexington, Ky.

The present work was undertaken in an effort to throw additional light on the distribution of suggestibility in normal individuals and

to compare the suggestibility of adult male delinquents tested under the same conditions.

#### MATERIAL

Two groups of delinquents were tested—100 prisoners from the Kentucky State Reformatory and 100 inmates of the United States Penitentiary, Atlanta, Ga.

The first group was chosen indiscriminately from approximately 200 white prisoners temporarily quartered at the

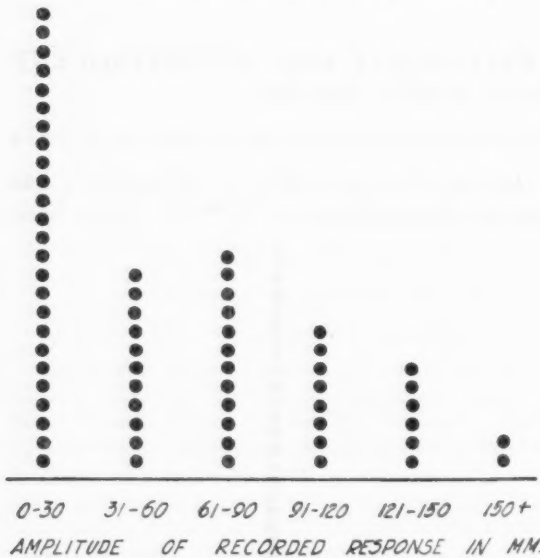


FIGURE 2.—Distribution of suggestibility scores of 64 college students tested by Charlotte Life. No negative responses are shown. Reproduced by permission (1).

United States Public Health Service Hospital at Lexington, Ky., during the flood emergency of January 1937. All had been in the institution several weeks prior to testing. Of the men called for testing, only a few were excluded; those who were ill, very deaf, seriously

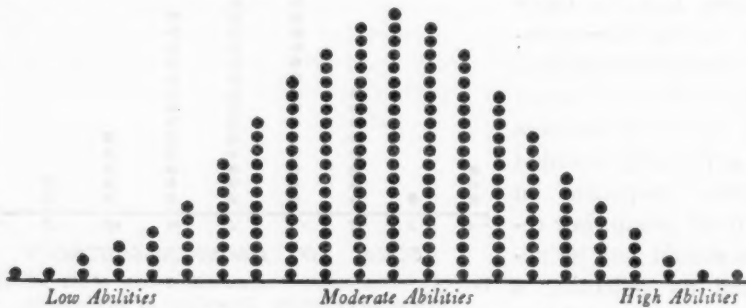


FIGURE 3.—Dot diagram representing idealized distribution of biological traits. Reproduced by permission (1).

defective mentally, or extremely uncooperative. Not more than one or two such individuals were encountered in each of these groups. The offenses for which these men were committed to prison, for periods of from 1 year to life, are shown in table 1; 34 of this group had served from 1 to 6 previous penitentiary sentences. The average age was 30.4 years.

TABLE 1.—*Offenses of Kentucky prisoners*

Offense	Fre- quency
Manslaughter.....	20
Murder.....	12
Robbery.....	9
Rape.....	9
Grand larceny.....	8
Store-house breaking.....	7
House breaking.....	7
Forgery.....	5
Armed robbery.....	4
Miscellaneous.....	10

The second group consisted of 100 prisoners tested at the United States Penitentiary, Atlanta, Ga. They were selected from approximately 3,000 inmates of that institution by calling every thirtieth man in the numerical order of admission to the institution. If a man thus selected was colored, unable to understand English, ill, very deaf, too defective mentally to understand the test, or actively uncooperative, the thirty-first man was tested. The offenses for which these men were committed to prison are shown in table 2; 56 had served from 1 to 4 previous penitentiary sentences. The average age was 36.3 years.

TABLE 2.—*Offenses of Atlanta prisoners*

Offense	Fre- quency
Violations of internal revenue laws.....	41
Dyer Act (auto theft).....	14
Counterfeiting.....	9
Postal violations.....	7
Mann Act (white slavery).....	6
Forgery.....	5
Impersonating officer.....	3
Robbery.....	3
Interstate robbery.....	3
Embezzlement.....	2
Miscellaneous.....	7

Two control groups were tested under the same conditions as were the two delinquent groups—100 employees of the United States Public Health Service Hospital at Lexington, Ky., and 22 employees at the United States Penitentiary, Atlanta, Ga.

The control group tested at Lexington consisted of adult white males employed as guards and attendants, or holding other civil-service positions. They were chosen indiscriminately from about 225 personnel. One called for testing was rejected because of illness, one because of active noncooperation. The average age was 35.68 years.

The control group tested at Atlanta consisted of 22 adult white male clerks and guards. One man called was rejected because of noncooperation. The average age was 34.27 years.

Attention is called to the fact that the delinquents and controls did not volunteer for the procedure but were tested in line of duty. Under these conditions it was necessary to reject only a very few cases who were obviously unwilling to cooperate.

#### TESTING PROCEDURE

A modification of the Hull postural sway test (5) was used. Essentially this consists of recording on a smoked drum, by means of a thread fastened to the subject's collar, the amount of backward and forward sway resulting from verbal suggestion delivered by a phonograph record, the subject standing erect with his eyes closed. In order to eliminate much of the labor connected with kymograph tracings in such a large group of individuals, the apparatus shown in figure 4 was devised. This recording device consists of two pointers sliding up and down on steel wires, arranged in such a manner that the friction of a piece of felt retains them in any position to which they are pulled by a small weight sliding up and down on the same steel wires and actuated by the thread attached to the subject's collar. This pull on the collar amounts to about 9 gm, and is imperceptible. As the subject sways forward and backward, the upper pointer moves upward and the lower pointer moves downward, each sticking at the point of maximum excursion, acting somewhat as a minimum and maximum recording thermometer. The sliding scale, calibrated in centimeters, is arranged so that the maximum forward and backward sway in any case can be read at a glance provided the zero point in the middle of the scale has been placed opposite the indicators when they are together after a normal standing position has been determined at the beginning of the test.

A phonograph record bearing the voice of the author giving suggestion, an electric phonograph capable of high fidelity reproduction and a screen complete the apparatus necessary for testing <sup>2</sup> (fig. 5).

The subject was brought into the room and asked to stand in a designated position facing the screen, with his heels together, arms hanging loosely at his sides and with his eyes closed "for 2 or 3 minutes." As unobtrusively as possible the thread was fastened by means of a metal clip to the back of his collar. In view of the distrustful and suspicious attitude of most prisoners concerning any kind of a "mental" test or experiment, better results and cooperation were obtained by asking the subject to keep his eyes closed than by blindfolding him. No explanation was given regarding the nature of the test, but the subject was assured that nothing unpleasant would be done to him while he was standing with his eyes closed. If he seemed

<sup>2</sup> The master phonograph record was made at the R. C. A. recording studio, Chicago, and, together with 12 pressings, cost \$55. A portable electric phonograph (R. C. A. model R-95) was used, costing slightly less than \$50. The only modification necessary was an improvised dial for the control knob so that the same volume was always delivered.

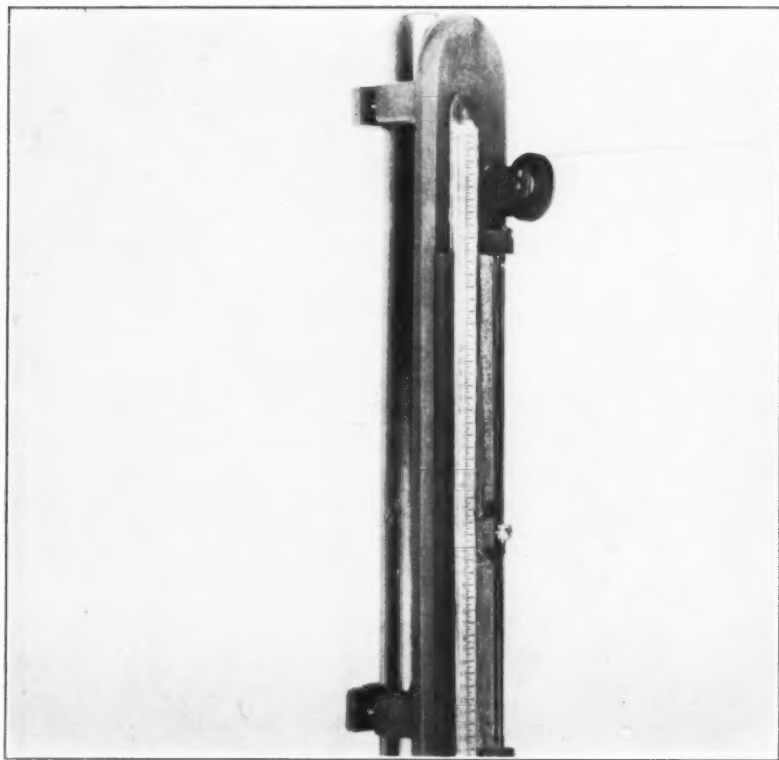


FIGURE 4.—Apparatus for recording sway.



FIGURE 5.—Arrangement of testing apparatus with screen moved to show phonograph.

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to be standing stiffly at attention, he was asked to relax and stand naturally.

Since every person has a certain amount of normal spontaneous sway while standing with the eyes closed, an attempt was made to determine the midpoint of this natural excursion before suggestion was started. This was done by having the subject stand quietly with the eyes closed for 1 minute and measuring the excursion of the forward and backward indicators. The centimeter scale was then slid up or down till the zero point was exactly half way between the indicators. With the zero point of posture thus established, the pointers were brought together and delivery of the suggestion by the phonograph was started. The text of this suggestion was as follows:

Now you'll begin to feel yourself falling slowly over forward. Slowly at first, forward, forward, leaning frontwards, swaying forward a little, swaying, swaying forward, forward; a little more forward, forward, forward; you'll feel your weight shifting from your heels to your toes as you start to sway and fall over forward. Gradually falling, more and more forward, more and more, over, over, over forward; forward a little more, more, a little more forward; falling, falling, falling forward; you're beginning to lose your balance, starting to go over forward, slowly, irresistibly forward; falling, falling, falling, falling, falling, falling, falling.

Now you'll feel yourself beginning to go over forward again, more and more; beginning to lose your balance, beginning to go over forward, forward; don't be afraid, I'll catch you; more and more forward, over onto your toes; falling, falling, falling, falling, falling. You can't help yourself, you're going over, falling over forward, forward, forward; you're being pulled over forward as if by some invisible force, you begin to feel it pulling you over now. Forward, more and more forward. You're going so far you're about to lose your balance; you're going slowly, irresistibly over; forward, more and more forward, forward. Over, over, over, you're falling, falling, falling; now you're falling, falling, falling, falling, falling, falling.

Now again you feel yourself beginning to go over forward, slowly, irresistibly forward; you're beginning to lose your balance, going more and more forward, more and more, over onto your toes; falling, falling, falling. You can't help yourself, you're going over, over, falling over forward; forward, forward, forward, forward. (3-second pause). All right, the experiment is over.

The delivery of this suggestion took exactly 2 minutes, at the end of which time the amount of backward and forward sway was read directly from the position of the indicators against the scale, and the subject was shown from the room with as little opportunity as possible to examine the apparatus.

Most of the subjects did not realize that a phonograph had been used. All recognized the author's voice.

*Scoring.*—Forward and backward sway was considered significant only if it exceeded the excursion of the spontaneous sway during the first minute of the test without suggestion. The distance by which the forward or backward movement exceeded the spontaneous sway was scored directly in centimeters, fractions counted as wholes.

Cases in which neither the forward nor backward sway exceeded the normal postural sway were scored as showing zero responses. Only 18 of the 322 individuals tested exceeded in both forward and backward directions the normal spontaneous sway. These were classed in accordance with the greater excursion. Although a large number of the cases were tested a second time after an interval of about 5 minutes, only the first tests are considered here, since a very high

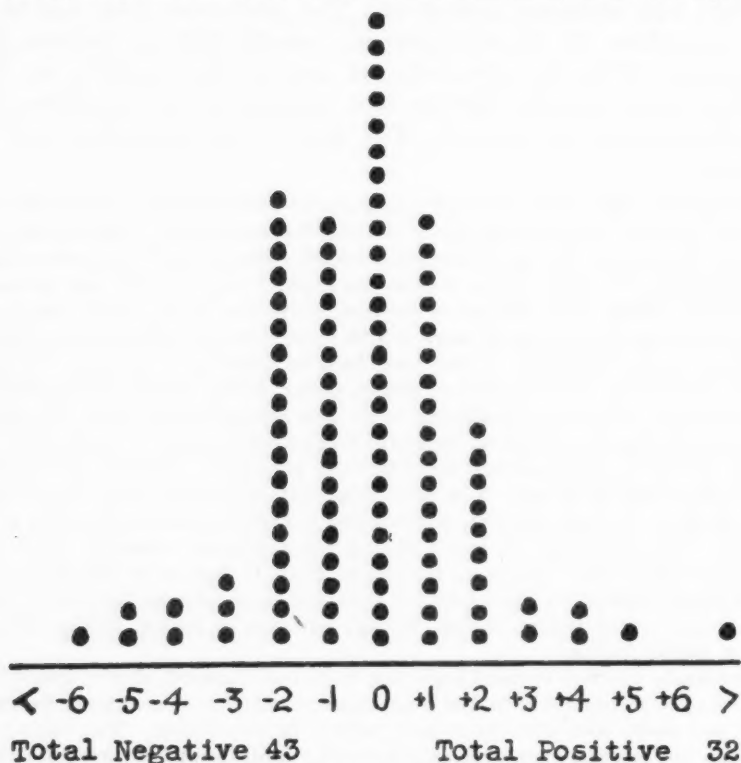


FIGURE 6.—Kentucky prisoners. Distribution of 100 scores.

correlation was shown between the first and second tests. This correlation between repeated tests has also been reported by Williams and Mendenhall (6).

#### RESULTS AND COMMENTS

Of the 100 Kentucky prisoners tested, 43 showed negative responses, 25 zero responses, and 32 positive responses, distributed as shown in the dot diagram in figure 6. Of the 100 persons in the control group tested under the same conditions, 48 showed negative responses, 20 zero responses, and 32 positive responses, distributed as shown in the dot diagram in figure 7.

The number of positive responses in these two groups is exactly the same, while the prisoner group shows five less negative responses and

five more zero responses than the control group. A zero response, in spite of suggestion to sway forward, is probably a modified negative response and perhaps should be classed as such. Considered in this light, these two groups show exactly the same number of positive and negative responses. In any case the difference is insignificant.

Considering the 100 Atlanta prisoners tested, 39 showed negative responses, 24 zero responses, and 37 positive responses, distributed as

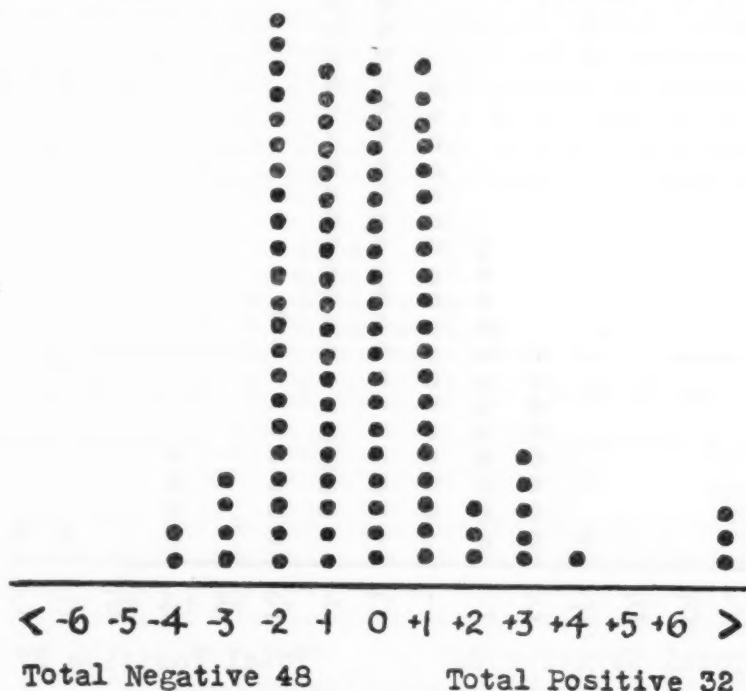


FIGURE 7.—Kentucky controls. Distribution of 100 scores.

shown in figure 8. At Atlanta it was possible to test only 22 as a control group. Of these, 50 percent showed negative responses, 9 percent zero responses, and 41 percent positive responses, distributed as shown in figure 9.

The difference between these two groups is not significant; and if the zero responses are added to the negative responses, we find 63 percent of the prisoners showing negative responses and 59 percent of the control group showing negative responses.

For easier comparison, the data obtained in these four groups are tabulated in table 3. The spontaneous sway measured during the minute preceding the suggestion is also shown for the various groups. This is slightly over 3 centimeters in all groups, with an individual range of 0.75 cm to 6.50 cm.

There is no significant difference in the responses obtained from these two groups of delinquents and two groups of controls. The two control groups check closely with one another, as do the two delinquent groups.

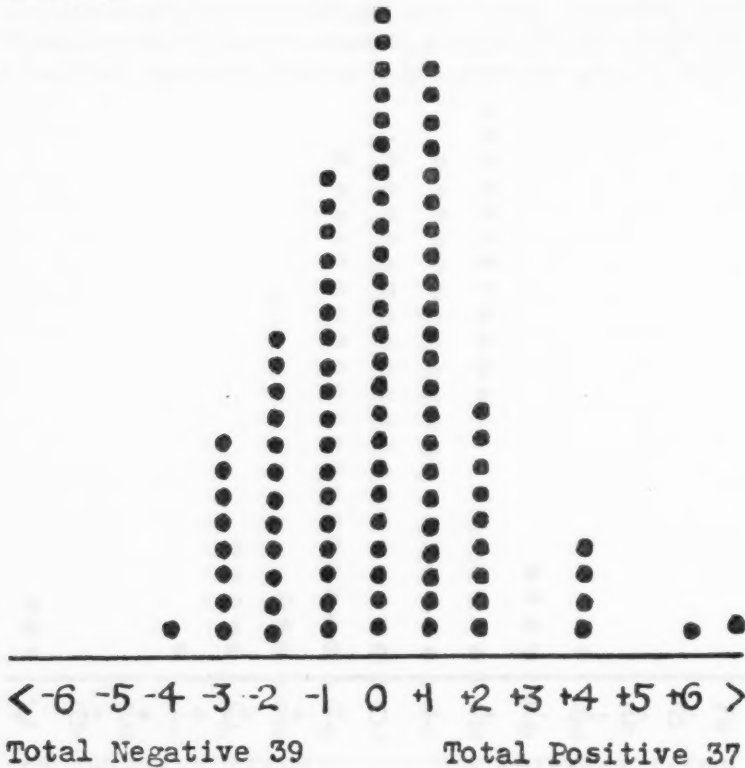


FIGURE 8.—Atlanta prisoners. Distribution of 100 scores.

TABLE 3.—Spontaneous sway and significant sway induced by suggestion in prisoners tested and in control groups

Group tested	Average age	Minimum age	Maximum age	Average spontaneous sway	Minimum spontaneous sway	Maximum spontaneous sway	Significant sway from suggestion				Maximum positive response
							Percent of negative responses	Maximum negative response	Percent of zero responses	Percent of positive responses	
100 Kentucky prisoners.....	30.40	18	60	cm 3.37	cm 0.75	cm 6.5	43	cm 6	25	32	Fall (1 case). Do.
100 Kentucky controls.....	35.68	19	52	3.25	1.5	6.5	48	4	20	32	
100 Atlanta prisoners.....	36.30	20	67	3.23	1	6.5	39	4	24	37	Do. Do.
22 Atlanta controls.....	34.27	24	53	3.05	1.75	5.75	50	4	9	41	

In the uncontrolled study of delinquent girls by Landis, mentioned above (fig. 1), 25 percent gave negative responses, which he thought of possible significance. This significance is lost when compared with the present control groups, if differences in age and sex of the groups do not affect results.

There has been considerable work done, mostly using some modification of the postural sway test, on various abnormal groups (6, 7, 8, 9, 10, 11), but it appears to have been inadequately controlled. Results have been most commonly compared with the work mentioned by Hull, done by Charlotte Life, who used voluntary subjects from her university classes, probably resulting in the automatic selection of suggestible individuals. If any of her subjects gave a negative response, she either ignored it or included it in her zero-response group.

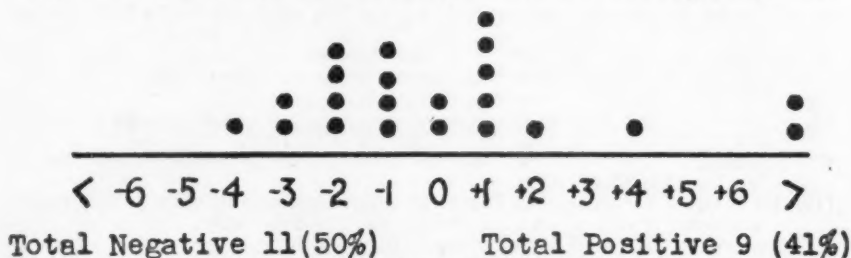


FIGURE 9.—Atlanta controls. Distribution of 22 scores.

The present study indicates that, in adult white males at least, the frequency distribution diagram tends to assume a bell-shaped form, if suggestibility is considered as a trait with negative responses at one end of a linear scale and positive responses at the other. In all the groups considered in this study a slightly negative response was most frequently obtained. It is possible that a number of individuals acting in a negative or a zero manner might have acted positively had the suggestion been given personally, more forcefully, and timed so as to reinforce the subject's forward excursions. Since the subjects tested were not volunteers, but called in line of duty, there is a possibility that the procedure to some extent tested cooperation as well as suggestibility. It is not felt that antagonism on the part of some individuals resulted in many negative responses, since most individuals did not know what the nature of their responses had been and since several individuals known to be antagonistic gave positive responses. Hull (1) showed that attempts to deceive the examiner or actively to resist suggestion did not appreciably alter the scores.

#### CONCLUSIONS

(1) Tested by the postural sway test, adult white male delinquents do not differ significantly in suggestibility from nondelinquents.

(2) Tested by the postural sway test, plotted suggestibility scores of a group of normal adult white males tend to form the bell-shaped curve common to other psychological traits. In the group tested here a slight negative response was most commonly found.

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